

## Claims

What is claimed is:

- 1 1. A longevity-associated genetic locus comprising a region of human chromosome 4  
2 having a linkage to marker D4S1564.
- 1 2. The locus of claim 1, wherein said genetic locus is contained within an approximately 20  
2 cM region surrounding said marker.
- 1 3. A genetic locus associated with resistance to age-related disease comprising a region of  
2 human chromosome 4 having a linkage to marker D4S1564.
- 1 4. The locus of claim 3, wherein said locus is contained within an approximately 20 cM  
2 region surrounding said marker.
- 1 5. A polymorphic marker indicative of propensity for longevity on human chromosome 4,  
2 wherein said marker is contained within an approximately 20 cM region surrounding  
3 marker D4S1564 on human chromosome 4.
- 1 6. A polymorphic marker indicative of propensity for resistance to age-related disease on  
2 human chromosome 4, wherein said marker is contained within an approximately 20 cM  
3 region surrounding marker D4S1564 on human chromosome 4.
- 1 7. A method for identifying propensity for longevity, such method comprising the steps of:  
2 a. amplifying DNA in the region of human chromosome 4 comprising a D4S1564  
3 marker; and  
4 b. detecting the presence of a polymorphic variant of the D4S1564 marker, wherein  
5 the presence of said variant is indicative of propensity for longevity.

1 8. The method of claim 7, wherein said polymorphic variant is contained within an  
2 approximately 20 cM region surrounding said D4S1564 marker.

1 9. A method for identifying propensity for age-related disease, comprising the steps of:  
2 a. amplifying DNA in the region of human chromosome 4 comprising a D4S1564  
3 marker; and  
4 b. detecting the presence of a polymorphic variant of the D4S1564 marker, wherein  
5 the presence of said variant is indicative of propensity for resistance to age-related  
6 disease.

1 10. The method of claim 9, wherein said polymorphic variant is contained within an  
2 approximately 20 cM region surrounding said D4S1564 marker.

1 11. A method for determining the propensity for longevity, the method comprising the steps  
2 of:  
3 a. obtaining a first tissue or body fluid sample from a first subject of at least 98 years  
4 of age;  
5 b. obtaining a second tissue or body fluid sample from a second subject who is  
6 related to said first subject;  
7 c. amplifying DNA obtained from said first and second samples in a region of  
8 human chromosome 4 that contains a D4S1564 marker;  
9 d. detecting the presence of a polymorphic variant in said region in both said first  
10 sample and said second sample; and  
11 e. determining that said second subject has a propensity for longevity if said  
12 polymorphic variant is detected in both said first sample and in said second  
13 sample.

1 12. The method of claim 11, wherein said polymorphic variant is contained within an  
2 approximately 20 cM region surrounding said D4S1564 marker.

14. The method of claim 13, wherein said polymorphic variant is contained within an approximately 20 cM region surrounding said D4S1564 marker.

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